Dynamic Chiropractic

SENIOR HEALTH

The Dizzy Patient

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Dizziness is the third most frequent complaint in general practice,[6] and the most common complaint in patients over 70 years of age.[1] Indeed, as many as 70% of adults 65 years of age and older, who are living at home, complain of dizziness.[1]

Dizziness is a general term used to describe a variety of disorders such as vertigo, presyncopal lightheadedness, psychophysiologic dizziness, disequilibrium, ocular dizziness, multisensory dizziness, and physiologic dizziness.[1]

Baloh states that "dizziness is a nonspecific term that describes a sensation of altered orientation in space. Since visual, proprioceptive, and vestibular signals provide the main source of information about the position of the head and body in space, damage to any of these afferent systems can lead to a complaint of dizziness."[1] Although all three are apparently important, which system gets the most attention when it comes to discussing dizziness? The answer, of course, is the vestibular labyrinth.

Lewit appears to take issue with this focus of attention on the vestibular labyrinth. "The role of the spinal column in the maintenance of balance is usually underrated. It is important to remember that under normal conditions the labyrinth is not necessary for the maintenance of equilibrium."[11] However, Lewit states that upper cervical spine receptors are very important for equilibrium and thus, "it is no coincidence that vertigo and dizziness are very frequently of cervical origin."[11] Basic scientists support this statement made Lewit who is a clinician researcher. For example, Guyton states that, "by far the most important proprioceptive information needed for the maintenance of equilibrium is that derived from the joint receptors of the neck."[8]

In the 1988 book, Control of Head Movement, published by Oxford University Press, there is a chapter devoted to sensory receptors in the neck. Richmond, et al. state: "For more than 100 years, we have known that sensory receptors in the neck play a special role in the control of posture and movement. As early as 1845, Longet reported that surgical damage of neck muscles in a wide range of species led to generalized but transient motor disturbances characterized by an ataxia similar to that which followed cerebellectomy."[14] These authors cite 10 papers, written between 1939 and 1979, which extended the experimental observations of Longet.

In Hospital Practice in 1993, Caranasos and Israel discussed gait problems in the elderly and explained how cervical spine mechanoreceptors provide major input regarding the position of the head in relation to the body. "With aging, mild defects impair the function of these endings and their fibers."[4] The result is decreased proprioception the patient becomes more dependent on visual input to maintain and monitor body position.[4]

In 1985, Hinoki published a paper which discussed a number of experiments which provided an explanation for how cervical and lumbar receptors can help to promote disequilibrium, dizziness and/or vertigo.[10] The problem with this paper is that the terminology is inconsistent regarding receptors and vertiginous symptoms.

In 1991, Revel, et al. demonstrated that patients with neck pain have an alteration in neck proprioception. The authors developed a proprioceptive test which involved head and neck repositioning after an active head movement. Patients with neck pain consistently performed this test significantly worse than pain-free controls. The authors concluded: "The test may also permit a completion of post-trauma cervical pain investigation by studying the responsibility of neck proprioceptors in dizziness and unclear 'pseudovestibular' disorders."[12]

In 1994, Revel, et al. performed a study which sought, in part, to determine if an exercise program based on eye-head coordination can improve cervicocephalic kinesthesia. The results demonstrated that such a rehabilitation program was successful. The authors concluded: "The rehabilitation program of cervicocephalic kinesthesia could be particularly appropriate for patients with neck pain and dizziness after neck trauma, because it has been postulated that this syndrome sometimes called 'cervical vertigo,' could be the result of damage to cervical proprioceptors."[13]

Notice that Revel, et al. state that dizziness after trauma is sometimes called "cervical vertigo." If you are not a stickler for definitions, then this characterization will not bother you. However, if you are interested in detailed definitions you might be inclined to agree with Dr. Hain who states that "cervical vertigo is rare."[9] Let's quickly examine the definitions of vertigo and dizziness so we can put Hain's statement into context. Vertigo is defined as "the illusion of motion or position, either of the patient or the environment."[5] Dizziness is "a general term, implying only the sense of a disturbed relationship to the space outside oneself."[5] "Dizziness, synonymous with lightheadedness, is the more common and less arresting floating feeling of instability, unsteadiness and depersonalization."[5] With dizziness, sensations of movement or nausea are mild, if they exist at all.[5] The following quote from Brandt supports Hain's statement that cervical vertigo is rare:

> "Neck afferents not only assist the coordination of eye, head, and body but also affect spatial orientation and control of posture. This implies that stimulation of or lesions in these structures could produce cervical vertigo. In fact, unilateral local anesthesia of the upper cervical roots induces ataxia and nystagmus in animals, and ataxia without nystagmus in humans. Cervical vertigo, if it exists outside these experimental conditions, is obviously characterized by ataxia and unsteadiness of gait rather than by a clear rotational vertigo."[3]

Brandt appears to be quite sure cervical vertigo does not exist and that cervicogenic disequilibrium may only exist in the laboratory.

In 1991, Brandt wrote a detailed text, Vertigo: Its Multisensory Syndromes. In a chapter about somatosensory vertigo, five pages are devoted to the topic of cervical vertigo.[2] The first paragraph is exactly the same as the one quoted above. Brandt goes on to state that there is a "fierce controversy between those who believe in cervical vertigo and the non-believers." Brandt then provides a table that describes clinical cervical vertigo and states that symptoms include "ataxia and unsteadiness of gait

associated with some neck pain or limitation of neck movement." It now appears that Brandt is convinced that cervicogenic disequilibrium is a real-life syndrome. Unfortunately, he does not mention how common dizziness or disequilibrium is compared to true vertigo, and also emphasizes that there is no reliable test to confirm the existence of true cervical vertigo. [It should be mentioned that none of the papers and chapters that I reviewed, attempted to quantify how many patients suffer with each of the different varieties of dizziness.]

Enter Fitz-Ritson in 1991. In the article, "Cervicogenic Vertigo," Fitz-Ritson presents a new method for assessing cervicogenic vertigo.[7] A patient is seated on a stool or chair that rotates. The patient closes his eyes while the doctor holds the head still. The patient rotates the body by moving the chair with the legs and feet. "If the patient now experiences vertigo, it will originate from the tissues of the cervical spine."[7] See the article for a detailed description of this test. Fitz-Ritson found that 112 out of 235 patients experienced cervical vertigo by this test method. The definition of vertigo used in this study can be either "a subjective vertigo, i.e., the patient feels that he is rotating, or objective vertigo, i.e., the feeling that the room or environment is rotating." In this study, half of the patients had true "rotational" vertigo. "After 18 treatments, 101 of the 112 patients (90.2%) were symptom free."[7] This finding is consistent with the findings of Lewit of states that manipulation is very effective for reducing vertigo and dizziness.[11]

It should be clear that more information about cervicogenic dizziness and vertigo is available than that which appears in the average medical textbook. Unfortunately, this fact is not well-known. In the past several years, I have spoken with thousands of DCs; only a few are aware of Fitz-Ritson's paper, and the other papers mentioned in this article.

To my knowledge, the chiropractic profession has published only a few papers devoted to dizziness and vertigo. This makes no sense to me. With all the meetings and summits that our so-called leaders routinely have, you would think that they would get different research departments at our colleges to target specific conditions, such as low back pain, neck pain, headaches, and dizziness and vertigo. After several years of intense focus, we might actually have a body of real literature to present to the world.

For those of you who would like to learn more about how joint and muscle receptors influence equilibrium, posture, and motor control, make sure to attend Class #14 and #15 of MPI's Chiropractic Neurology Diplomate Program. Diagnosis and chiropractic treatment programs will be discussed.

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